IN THE CLAIMS:

Please amend the claims as follows:

1. (currently amended) Method for determining a position ~~(x_p)~~ of a peak of a pulse in a signal received at a receiver, said method comprising:

taking samples of said received signal;

determining at least three samples, of which at least one has a signal strength exceeding a threshold value; and

determining the position ~~(x_p)~~ of said pulse peak based on an interpolation of at least two of said determined samples, which at least two samples are selected based on the signal strengths of said at least three determined samples, and which interpolation includes an evaluation of the signal strength of said at least two samples,

wherein different types of equations for said interpolation are provided for different distributions of the signal strengths of said at least three determined samples.

2. (cancelled)

3. (currently amended) Method according to claim 1, wherein said at least two samples are selected based in addition on a model for a pulse shape ~~(31,41,51,61)~~.

4. (currently amended) Method according to claim 1, wherein equations for said interpolation are determined based on a model for a pulse shape ~~(31,41,51,61)~~.

5. (currently amended) Method according to claim 3, wherein said model of said pulse shape ~~(31,41,51,61)~~ has a triangular shape.

6. (original) Method according to claim 5, wherein, in case a signal strength $A(x_0)$ of a determined sample at a first position x_0 is smaller than a signal strength $A(x_1)$ of a determined second sample at a following second position x_1 and the signal strength $A(x_1)$ of said second sample is larger than a signal strength $A(x_2)$ of a determined third sample at a following third position x_2, the position of said peak is estimated to be:

$$x_1 + \frac{1}{2}\left[\frac{A(x_2) - A(x_0)}{A(x_2) + A(x_0)}\right] \text{ chips.}$$

7. (original) Method according to claim 5, wherein said pulse has a width of about two chips, wherein a sampling rate is two samples per chip, and wherein, in case a signal strength $A(x_0)$ of a determined sample at a first position x_0 is smaller than a signal strength $A(x_1)$ of a determined second sample at a following second position x_1 and the signal strength $A(x_1)$ of said second sample is smaller than a signal strength $A(x_2)$ of a determined third sample at a following third position x_2, the position of said peak is estimated to be:

$$x_0 + \frac{1}{2}\left[\frac{A(x_1)}{A(x_1) + A(x_0)}\right] \text{ chips.}$$

8. (original) Method according to claim 5, wherein said pulse has a width of about two chips, wherein a sampling rate is two samples per chip, and wherein, in case a signal strength $A(x_0)$ of a determined sample at a first position x_0 is larger than a signal strength $A(x_1)$ of a determined second sample at a following second position x_1, the position of said peak is estimated to be:

$$x_0 + \frac{1}{2}\left[\frac{A(x_1) - A(x_{-1})}{A(x_1) + A(x_{-1})}\right] \text{ chips,}$$

wherein $A(x_{-1})$ is a signal strength of a determined third sample preceding said first sample at a third position x_{-1}.

9. (currently amended) Method according to claim 4, wherein a weighting of the signal strengths of samples used in said interpolation is performed before said

interpolation based on known deviations between said model of said pulse shape ~~(61)~~ and a real pulse shape ~~(65)~~.

10. (currently amended) Method according to claim 4, wherein a correction of a position ~~(x_p)~~ determined based on said interpolation is performed based on known deviations between said model of said pulse shape ~~(61)~~ and a real pulse shape ~~(65)~~ and based on the signal strengths of said samples.

11. (original) Method according to claim 1, wherein said at least three samples are consecutive samples.

12. (currently amended) Apparatus ~~Device~~ comprising: ~~means for determining the position (x_p) of a peak of a pulse in a signal received at a receiver according to claim 1~~

a sampling component configured to take samples of a received signal, wherein a position of a peak of a pulse in said signal is to be determined;

a determination component configured to determine at least three samples, of which at least one has a signal strength exceeding a threshold value; and

a processing component configured to determine the position of said pulse peak based on an interpolation of at least two of said determined samples, which at least two samples are selected based on the signal strengths of said at least three determined samples, and which interpolation includes an evaluation of the signal strength of said at least two samples, wherein different types of equations for said interpolation are provided for different distributions of the signal strengths of said at least three determined samples.

13. (currently amended) Apparatus ~~Device~~ according to claim 12, wherein said ~~device~~ apparatus is a ~~said~~ receiver receiving said signal.

14. (currently amended) ~~Device~~ Apparatus according to claim 12, wherein said ~~device~~ apparatus is a device external to a ~~said~~ receiver receiving said signal and comprises further a receiving component configured to ~~means for~~ receive ~~ing~~ from said receiver information on said received signal.

15. (currently amended) ~~Device~~ Apparatus according to claim 14, wherein said ~~device~~ apparatus is a network element of a cellular communication system.

16. (currently amended) Cellular communication system comprising an ~~device~~ apparatus according to claim 12~~1~~.

17. (new) Apparatus according to claim 12, wherein said processing component is configured to select said at least two samples based in addition on a model for a pulse shape.

18. (new) Apparatus according to claim 12, wherein said different types of equations for said interpolation have been determined based on a model for a pulse shape.

19. (new) Apparatus according to claim 17, wherein said model of said pulse shape has a triangular shape.

20. (new) Apparatus according to claim 19, wherein said processing component is configured to, in case a signal strength $A(x_0)$ of a determined sample at a first position x_0 is smaller than a signal strength $A(x_1)$ of a determined second sample at a following second position x_1 and the signal strength $A(x_1)$ of said second sample is larger than a signal strength $A(x_2)$ of a determined third sample at a following third position x_2, estimate the position of said peak to be:

$$x_1 + \frac{1}{2}\left[\frac{A(x_2) - A(x_0)}{A(x_2) + A(x_0)}\right] \text{ chips.}$$

21. (new) Apparatus according to claim 19, wherein said pulse has a width of about two chips, wherein a sampling rate is two samples per chip, and wherein said processing component is configured to, in case a signal strength $A(x_0)$ of a determined sample at a first position x_0 is smaller than a signal strength $A(x_1)$ of a determined second sample at a following second position x_1 and the signal strength $A(x_1)$ of said second sample is smaller than a signal strength $A(x_2)$ of a determined third sample at a following third position x_2, estimate the position of said peak to be:

$$x_0 + \frac{1}{2}\left[\frac{A(x_1)}{A(x_1) + A(x_0)}\right] \text{chips.}$$

22. (new) Apparatus according to claim 19, wherein said pulse has a width of about two chips, wherein a sampling rate is two samples per chip, and wherein said processing component is configured to, in case a signal strength $A(x_0)$ of a determined sample at a first position x_0 is larger than a signal strength $A(x_1)$ of a determined second sample at a following second position x_1, estimate the position of said peak to be:

$$x_0 + \frac{1}{2}\left[\frac{A(x_1) - A(x_{-1})}{A(x_1) + A(x_{-1})}\right] \text{chips,}$$

wherein $A(x_{-1})$ is a signal strength of a determined third sample preceding said first sample at a third position x_{-1}.

23. (new) Apparatus according to claim 18, wherein said processing component is configured to perform a weighting of the signal strengths of samples used in said interpolation before said interpolation based on known deviations between said model of said pulse shape and a real pulse shape.

24. (new) Apparatus according to claim 18, wherein said processing component is configured to perform a correction of a position determined based on said interpolation based on known deviations between said model of said pulse shape and a real pulse shape and based on the signal strengths of said samples.

25. (new) Apparatus according to claim 12, wherein said determination component is configured to determine consecutive samples as said at least three samples.

26. (new) Apparatus comprising:

means for taking samples of a received signal, wherein a position of a peak of a pulse in said signal is to be determined;

means for determining at least three samples, of which at least one has a signal strength exceeding a threshold value; and

means for determining the position of said pulse peak based on an interpolation of at least two of said determined samples, which at least two samples are selected based on the signal strengths of said at least three determined samples, and which interpolation includes an evaluation of the signal strength of said at least two samples, wherein different types of equations for said interpolation are provided for different distributions of the signal strengths of said at least three determined samples.